

SECTION I—CLAIMS

Amendment to the Claims:

This listing of the claims will replace all prior versions and listings of claims in the application. Claims 1-34 are canceled herein without prejudice. New claims 35-58 are presented herein. Claims 35-58 remain pending in the application.

Listing of Claims:

1-34. (Canceled).

35. (New) A method in an application server, comprising:
receiving a Web service archive including a Web service implementation having abstract design-time functionality therein, the abstract design-time functionality being independent of runtime requirements of the application server, and wherein the Web service archive further includes a Web service deployment descriptor specifying a mapping of the abstract design-time functionality to the runtime implementation requirements of the application server;
unpacking the Web service implementation and the Web service deployment descriptor from the Web service archive into a directory within the application server; and
executing the abstract design-time functionality as a deployed Web service within the application server based on the mapping specified by the Web service deployment descriptor.

36. (New) The method of claim 35, wherein the abstract design functionality of the Web service implementation comprises a plurality of Web service operations and a plurality of Web service parameters; and wherein

the Web service archive further comprises a virtual interface to selectively expose a subset of the Web service operations and parameters, wherein the virtual interface is publishable as a separate deployed Web service within the application server.

37. (New) The method of claim 36, wherein the Web service archive further comprises a second virtual interface to selectively expose a second subset of the Web service operations and parameters, wherein the second subset of the Web service operations and parameters is different than the first subset of the Web service operations and parameters, and wherein the second virtual interface is separately publishable as a second deployed Web service within the application server.
38. (New) The method of claim 35, further comprising registering the deployed Web service with a Web services registry on the application server.
39. (New) The method of claim 38, wherein registering the deployed Web service comprises automatically registering the deployed Web service with a Java Naming and Directory Interface (JNDI) of the application server.
40. (New) The method of claim 35, wherein executing the abstract design-time functionality as the deployed Web service within the application server comprises executing the abstract design-time functionality in a Web services container of the application server, wherein the deployed Web service to operate within the Web services container on the application server.
41. (New) The method of claim 40, wherein the Web services container comprises a dedicated implementation container.
42. (New) The method of claim 41, wherein the dedicated implementation container comprises an Enterprise Java Bean (EJB) container or a servlet container.

43. (New) A computer-readable medium having instructions stored thereon that, when executed by a processor in an application server, causes the application server to perform a method comprising:

receiving a Web service archive including a Web service implementation having abstract design-time functionality therein, the abstract design-time functionality being independent of runtime requirements of the application server, and wherein the Web service archive further includes a Web service deployment descriptor specifying a mapping of the abstract design-time functionality to the runtime implementation requirements of the application server;

unpacking the Web service implementation and the Web service deployment descriptor from the Web service archive into a directory within the application server; and

executing the abstract design-time functionality as a deployed Web service within the application server based on the mapping specified by the Web service deployment descriptor.

44. (New) The computer-readable medium of claim 43, wherein the abstract design functionality of the Web service implementation comprises a plurality of Web service operations and a plurality of Web service parameters; and wherein

the Web service archive further comprises a virtual interface to selectively expose a subset of the Web service operations and parameters, wherein the virtual interface is publishable as a separate deployed Web service within the application server.

45. (New) The computer-readable medium of claim 44, wherein the Web service archive further comprises a second virtual interface to selectively expose a second subset of the Web service operations and parameters, wherein the second subset of the Web service operations and parameters is different than the first subset of the Web service operations

and parameters, and wherein the second virtual interface is separately publishable as a second deployed Web service within the application server.

46. (New) The computer-readable medium of claim 43, wherein the method further comprises registering the deployed Web service with a Web services registry on the application server.

47. (New) The computer-readable medium of claim 46, wherein registering the deployed Web service comprises automatically registering the deployed Web service with a Java Naming and Directory Interface (JNDI) of the application server.

48. (New) The computer-readable medium of claim 43, wherein executing the abstract design-time functionality as the deployed Web service within the application server comprises executing the abstract design-time functionality in a Web services container of the application server, wherein the deployed Web service to operate within the Web services container on the application server.

49. (New) The computer-readable medium of claim 48, wherein the Web services container comprises a dedicated implementation container.

50. (New) The computer-readable medium of claim 49, wherein the dedicated implementation container comprises an Enterprise Java Bean (EJB) container or a servlet container.

51. (New) An application server, comprising:
means for receiving a Web service archive including a Web service implementation having abstract design-time functionality therein, the abstract design-time functionality being independent of runtime requirements of the application server, and wherein the Web service archive further includes a Web service deployment descriptor having means for specifying a mapping between the abstract design-time functionality and the runtime

implementation requirements of the application server;
means for unpacking the Web service implementation and the Web service deployment descriptor from the Web service archive into a directory within the application server;
and
means for executing the abstract design-time functionality as a deployed Web service within the application server based on the mapping specified by the Web service deployment descriptor.

52. (New) The application server of claim 51, wherein the abstract design functionality of the Web service implementation comprises a plurality of Web service operations and a plurality of Web service parameters; and wherein the Web service archive further comprises a virtual interface having means for selectively exposing a subset of the Web service operations and parameters, wherein the virtual interface is publishable as a separate deployed Web service within the application server.

53. (New) The application server of claim 52, wherein the Web service archive further comprises a second virtual interface having means for selectively exposing a second subset of the Web service operations and parameters, wherein the second subset of the Web service operations and parameters is different than the first subset of the Web service operations and parameters, and wherein the second virtual interface is separately publishable as a second deployed Web service within the application server.

54. (New) The application server of claim 51, further comprising means for registering the deployed Web service with a Web services registry on the application server.

55. (New) The application server of claim 54, wherein registering the deployed Web service comprises means for automatically registering the deployed Web service with a Java

Naming and Directory Interface (JNDI) of the application server.

56. (New) The application server of claim 51, wherein executing the abstract design-time functionality as the deployed Web service within the application server comprises means for executing the abstract design-time functionality in a Web services container of the application server, wherein the deployed Web service to operate within the Web services container on the application server.

57. (New) The application server of claim 56, wherein the Web services container comprises a dedicated implementation container.

58. (New) The application server of claim 57, wherein the dedicated implementation container comprises an Enterprise Java Bean (EJB) container or a servlet container.